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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,262	12/03/2003	Kevin W. Glass	80107.099US1	4905

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LeMoine Patent Services, PLLC  
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Minneapolis, MN 55402

EXAMINER

NGUYEN, KHANH V

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/727,262

Applicant(s)

GLASS ET AL.

Examiner

Khanh V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,2,6-17 and 21-29 is/are rejected.
- 7) ☒ Claim(s) 3-5,18-20 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/3/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "error amplifier" in claims 14 and 24 and "automatic gain control circuit" in claim 21 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "**the first** transistor" in lines 3-4.

Claim 6 recites the limitation "a **third** bias circuit" in line 1. There is no "second bias circuit" in claim 1. Should claim 6 be depended on claim 5, which discloses "a second bias circuit"?

There are insufficient antecedent basis for this limitation in the claims.

Claims 9, 14, 15, 21, 24, 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 9, it is not clear how the "D/A converter" increase a collector-to-emitter bias current in the first transistor as claimed in claim 1.

Regarding claims 14, 15, 24, it is not clear which "**error amplifier**" is intended.

Regarding claim 21, it is not clear which "**automatic gain control circuit**" is intended.

Regarding claim 27, **the recited method is not clearly disclosed in the specification. Which reference signal is intended and how the output voltage is measured.**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 7, 10, 26, 28, 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Luo et al. (6,417,734).

Regarding claims 1, 26, Luo et al. (Fig. 1) disclose a high frequency amplifier circuit comprising: an input transistor (12) and a second transistor (10) coupled as Darlington pair; and transistors (28, 30) can be read as a bias circuit, which is capable of increasing a collector-to-emitter bias current in the first transistor (12).

Regarding claim 2, wherein transistor (30) can be read controllable current source.

Regarding claims 6, 7, wherein bias voltage (VBIAS) can be read as claimed bias circuit apply to the base of input bipolar transistor (12).

Regarding claim 10, wherein the reference circuit comprises inductor (14) having the connection thereof.

Regarding claims 28, 29, wherein the bias voltage (VBIAS) can be changed as desired.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luo et al.

Regarding claim 8, Luo et al. disclose the claimed invention except the input transistor is an Indium Phospate transistor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced bipolar transistor of reference with a known Indium Phospate transistor, since applicant has not disclosed that Indium Phospate transistor solves any stated problem or is for any particular purpose and in light of any criticality or unexpected result, it appears that the reference circuit would perform equally well with Indium Phospate transistor.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luo et al. in view of Yuan (6,392,492).

Luo et al. disclose the claimed invention except an inductor claimed.

Yuan ((Fig. 1) discloses an inductor (32) coupled between the emitter of transistor and ground.

Accordingly, it would have been obvious in view of the reference, taken as a whole, to have modified the circuit of Luo et al. to have included an inductor having the connection thereof, as taught by Yuan. Such a modification would have imparted the advantageous benefit of improved linearity of the transistor (see column 2, lines 29-30) as taught by Yuan, to Luo et al. reference, thereby suggesting the obviousness of such a modification.

Claims 12, 13, 16, 17, 22, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reif et al. (5,724,004) in view of Luo et al.

Regarding claims 12, 16, 17, 22, 25, Reif et al. (Fig. 1) disclose the claimed invention except the transmitter circuit is implemented by a Darling pair. Reif et al. disclose transmitter (110) comprising: an antenna (106); an RF power amplifier which is not a Darlington pair is in the transmitter (110); a D/A converter can be read as a controllable bias circuit; and a controller (112) includes a processor (118), which can be read as a control circuit.

Luo et al. disclose an high frequency amplifier having Darling pair.

Accordingly, it would have been obvious in view of the reference, taken as a whole, to have modified the circuit of Reif to have included a Darlington pair, as taught by Luo et al. Such a modification would have imparted the advantageous benefit of reduced power consumption under low-bias condition (see column 2, lines 3-8) as taught by Luo et al., to Reif et al. reference, thereby suggesting the obviousness of such a modification.

Regarding claims 13, 23, Luo et al, wherein bias voltage (VBIAS) can be read as claimed bias circuit apply to the base of input bipolar transistor (12).

### ***Allowable Subject Matter***

Claims 3-5, 18-20, 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 3 calls for, among others, an operational amplifier (210) having the connection and function thereof.

Claims 4, 5, 18-20, 30 call for, among others, a cascode transistor (310) having the connection thereof.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references (Kobayashi (5,264,806); Le et al. (5,859,568)) disclose Darlington pair.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (571) 272-1767. The examiner can normally be reached from 8:00 AM - 3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone numbers



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for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Khanh Van Nguyen', with a long horizontal flourish extending to the right.

**KHANH VAN NGUYEN**  
**PRIMARY EXAMINER**  
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